Land Warrior (LW)

MISSION

LW is the Army's premier system for optimizing the close-combat effectiveness of the individ dismounted soldier and linking him into the digitized battlefield. LW will enhance the perform combat mission tasks by improving his Lethality, Command and C , Mobility, and Sustainment. The program centers on providing an integrated fighting system with up-to-date equipment for wireless communications, navigation, and information exchange, as well as sophisticated sensing devices and weaponry.

DESCRIPTION AND SPECIFICATIONS

The LW is a first-generation, modular, integrated fighting system for dismounted combat soldiers consisting of systems, components, and technologies that include:

- Modular weapon system with thermal weapon sight (TWS), laser rangefinder, digital compass, laser aiming light, Infra-Red illumination, daylight video sight, and close combat optic;
- Integrated headgear with helmet mounted display that allows the soldier to view maps, messages and indirect viewing of the TWS sight picture and video; and an image intensifier;
- Enhancements to protective clothing and individual equipment; and
- Integrated individual soldier computer/radio and Global Positioning System (GPS).

The system's approach will optimize and integrate these capabilities, without adding to the soldier's combat load. The integrated squad and soldier radios and the GPS within the computer/radio subsystem provide digital command and control and situational awareness capability previously unavailable to the combat soldier. The GPS provides the soldier's location to the computer, integrates the soldier's position with location reports from other soldiers, and displays the information on a digital map on his helmet-mounted display. The radios, controlled by the computer, provide both digital and voice capabilities to the dismounted soldier. The soldier radio is provided to all Land Warriors; the leader radio is provided to team leaders and above. The leader radio is Single Channel Ground and Airborne Radio System (SINCGARS)-compatible while the soldier radio leverages wireless LAN technology for intra-squad communications. Besides the leader radio, each leader has a Leader Planning Tool called the Commander's Digital Assistant (CDA). The CDA is a handheld device that provides LW situational awareness and communications capability at the team leader and above level.

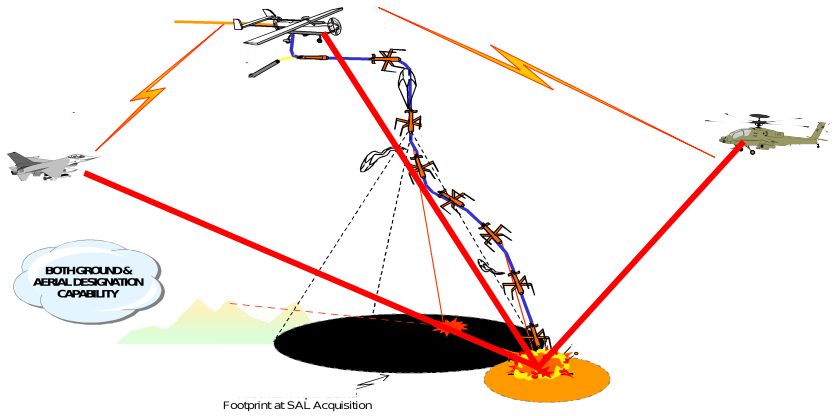
FOREIGN COUNTERPART - No known foreign counterpart
FOREIGN MILITARY SALES - None

Armed UAV

Mission

The Armed Unmanned Aerial Vehicle System (UAVS) provides precision strike capability to attack and assess the JFC and the UE commanders' HPTs, and operational and tactical targets throughout the UEx battlespace to destroy critical enemy capabilities, shape subordinate unit operations, and to achieve decision.

Armed UAV Capabilities



CAPABILITIES

- **Range – 300-400 Km for UEx**
- **Capable of supporting four TAIs with a four hour loiter time, maintaining 24 hour operations**
- **Capable of attacking up to 10 targets per UAV sortie (per TRADOC cdr)**
- **Organic sustainment capability**
- **Conducts operations from fixed airfield, or other improved landing surfaces**
- **Conduct precision strike.**
- **Capable of self-designating with semi-active laser and designating for other precision strike resources, integrating air and surface fires with its attack**
- **Capable of providing near real-time BDA**
- **Capable of IFF and blue force tracking for air space management**
- **Capable of receiving terminal control of munitions from a ground observer**
- **Non-lethal attack capability, leaflet and/or electronic attack and future non-lethal munitions**

APPLICATION

- **Provide CAS in support of SOF and early entry maneuver operations**
- **Conduct precision attack in urban area under ROE constraints**
- **Conduct Joint attack with rotary, fixed wing aircraft, and other UAV system**
- **Loiter over target areas at operational distance, locate and attack operational targets**
- **Provide force protection in the UE AOR**
- **As part of the Battle Command system, receives cues from other sensors to locate targets, can provide target assessment to other assets, performs autonomous target acquisition and attack, while contributing**

RQ-8A Fire Scout VTUAV

Physical Characteristics

Rotor Diameter	27 ft 6.5 inch
Overall Length (Rotor Spread)	30 ft 0.5 inch
Overall Length (Rotor Folded)	23 ft 2.2 inch
Height	9 ft 4.1 inch
Overall Width	5 ft 10.9 inch
Empty Weight (with Payload)	1834 lbs
Max. Take-off Weight	2650 lbs
Payload Capacity	300 lbs
Mission Fuel Load	816 lbs
Total Fuel Capacity	130.5 gallons

Operational Characteristics

Max. Speed	125 kts
Max. Altitude	20,000 ft
Operational Radius (Data Link LOS Limit)	150 nm
Endurance	6+ hrs
Fuel Type	Heavy Fuel (JP-5, JP-8)
Takeoff Means	Hover
Landing Means	Hover
Engine (Rolls Royce 250C20W)	420 shp

Payload

Combination Electro-Optical/Infra-Red/Laser Designator Rangefinder Payload

Total Payload Weight (including mount) 127 lbs

Tactical Unmanned Aerial Vehicle (TUAV)

MISSION - Provide reconnaissance, surveillance, and target acquisition (RSTA) to U.S. Army brigades and regiments.

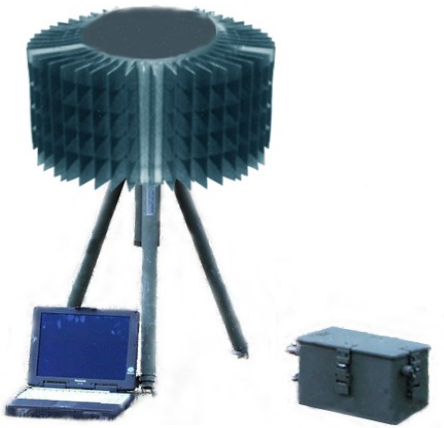
DESCRIPTION AND SPECIFICATIONS

Consists of four basic components: (1) two Ground Control Stations (GCS) and related equipment; (2) four Air Vehicles (AV); (3) Modular Mission Payloads (MMPs); and (4) communications. The system is designed to be easy to launch, operate, recover, and maintain with a minimum of training, logistics, and personnel. The system is capable of near real time (NRT) transmission of Electro Optic/Infrared (EO/IR) imagery. The TUAV provides products via the secure Tactical Common Data Link (TCDL). Secure communications for the system are integrated into the air vehicles and ground control components and allow for transmission and receipt of command and control data, telemetry and imagery. Additional secure communications and intelligence dissemination are provided via the standard DoD tactical (VHF and UHF) radios, Mobile Subscriber Equipment (MSE), and the Tactical Local Area Network (TACLAN). The TUAV can operate during less than ideal weather conditions (operates in environments similar to a small light aircraft) with a range of 50 kms from the launch and recovery site, flying at altitudes of 14,000 feet Mean Sea Level (MSL) or greater. Nominal operating altitudes/survivable altitudes are from 8,000 to 10,000 feet Above Ground Level (AGL) for day operations and between 6,000 to 8,000 feet AGL for night operations. The TUAV system has an endurance of four hours on station at 50 kms. The complete TUAV system fits in four High Mobility Multipurpose Wheeled Vehicles (HMMWVs) with shelters, two Cargo/Troop carrying HMMWVs, and three trailers with enough room for all personnel, crew members' combat equipment (rifles, helmets, camouflage netting, individual protective equipment, etc.) and enough Class I (subsistence) and Class III (Petroleum, Oils, and Lubricants) and Class IX (repair parts) supplies for the first 72 hours of operation (threshold)/seven-day period (objective). A threshold requirement is for a system configurable to deliver 72 hours of operational capability at a minimum of 12 flight hours on station in a 24 hour period deployable in a single C-130 sortie (using the HMMWV as the prime mover and including transportation for the entire "reduced" crew). Sustainment beyond the initial 72 hours is supported with a divisional mobile maintenance facility (MMF) consisting of a HMMWV and trailer. The complete baseline TUAV system with personnel and equipment can be transportable in no more than three C-130 sorties.

FOREIGN COUNTERPART - Several of our allies are operating systems of a similar class, namely the United Kingdom (Phoenix), Israel (Searcher and Searcher II), France (Fox AT) and Sweden (Ugglan). Denmark, Belgium, and the United Kingdom are developing requirements or acquiring systems in the TUAV class. Open literature suggests that many countries have some type of system, but most are experimental.

FOREIGN MILITARY SALES - None

Light Weight Counter Mortar Radar



Missio
n

**Provide responsive, accurate, flexi
man packable, battery operated, ta
acquisition of short range of morta
and artillery.**

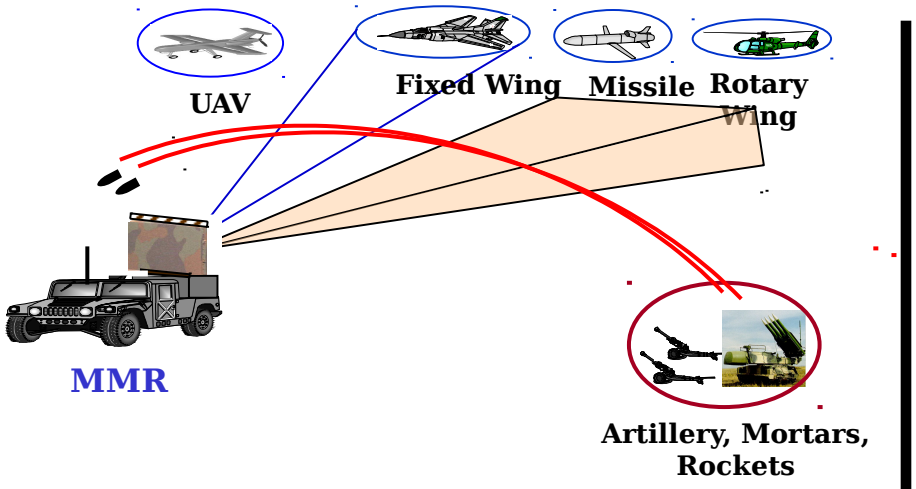
Characteristics

- **Newest Technology**
- **Range/Accuracy**
  - **Mortar 6500m TLE 100m**
- **360 degree detection capability**
- **Track while scan operations**
- **Use of COTS equipment**
- **Man Packable**
- **Air droppable**

Program History

- **Mission Needs Statement** **Jun**
- **Prototype Contract Award** **Ma**
- **ORD/SOF Community** **Ju**
- **Operational Needs Statement** **Au**
- **Field/Operational Test (SOF)** **Ong**

Multi-Mission Radar



Mission

FY 12

Provide responsive,accurate, ta acquisition for Counterfire, Air Defense Surveillance, Fire Contr and Air Traffic Control form a sin platform.

Characteristics

- **360 Degree Coverage**
- **Ability to Track Hundreds of Targets**
- **Search, Track & Identify**
- **Provide Fire Control Data against Rockets,**
- **Air Defense Cueing & Handoff Targets**
- **Locate Artillery, Mortar & Rockets**

Program History

- **Program Lead is the ADA School**
- **Combined Effort ADA, Aviation, Fi**
- **Concept Draft A**
- **ORD Draft N**
- **STRAP/OMS/MP Draft Jan**

M1 Abrams Tank

MISSION
Provide heavy armor superiority on the battlefield.
DESCRIPTION AND SPECIFICATIONS
The Abrams tank modernization strategy supports the Army Vision. The Abrams tank clos and destroys enemy forces on the integrated battle-field using mobility, firepo effect. The 120mm main gun on the M1A1 and M1A2, combined with the powerful 1,500 hp turbine engine and special armor, make the Abrams tank particularly suitable for attacking or defending against large concentrations of heavy armor forces in a highly lethal battlefield. Features of the M1A1 include increased armor protection; suspension improvements; and a nuclear, biological, and chemical (NBC) protection sys-tem that increases survivability in a contaminated environment. The M1A1D modification scheduled for 1535 M1A1s, consists of an M1A1 with integrated Appliqué+ computer and a far-target-designate capability. The M1A2 program provides the Abrams tank with the necessary improvements in lethality, survivability, and fightability required to defeat advanced threats. The M1A2 includes a commander's independent thermal viewer, an improved commander's weapon station, position navigation equipment, a distributed data and power architecture, an embedded diagnostic system, and improved fire control system. The M1A2 System Enhancement Program (SEP) adds second-generation thermal sensors and a Thermal Management System (TMS). The SEP includes upgrades to processors/memory that enable the M1A2 to use the Army's common command and control software enabling the rapid transfer of digital situational data and overlays. The Abrams modernization strategy also includes a new engine program, the Abrams Integrated Management (AIM) Overhaul Program, and parts obsolescence program, which will reduce the operational and support costs, and logistical footprint associated with the Abrams. Current series fielded: M1A1C, M1A2, M1A2 SEP
Length: 32.04 ft
Width: 12.0 ft
Height: 8.0 ft
Top speed: 42 mph
Weight: 62.8 to 69.5 tons (not combat loaded)
Armament: 120mm
Crew: 4

FOREIGN COUNTERPART - France: Leclerc; Germany: Leopard 2; Israel: Merkava Mk. 3; Italy: C1 Ariete;Russia: T-64, T-72, and T-80; United Kingdom: Challenger 2.
FOREIGN MILITARY SALES - Egypt: 555 M1A1 Kits; Kuwait: 218 M1A2s; Saudi Arabia: 315 M1A2s. A sale of up to 200 more M1A1 kits to Egypt is in process.

Bradley M2A3 Infantry/M3A3 Cavalry Fighting Vehicle

MISSION

Provide infantry and cavalry fighting vehicles with digital command and control capabilities, significantly increased situational awareness, enhanced lethality, survivability, and improved sustainability and supportability.

DESCRIPTION AND SPECIFICATIONS

Length: 30.96 ft
Width: 17.04 ft with armor tiles; 15.48 ft with armor skirts
Height: 14.04 ft
Weight: 67,000 lb combat loaded
Power train: 600 hp Cummins VTA-903T diesel engine with GM-Allison HMPT-500-3EC hydro-mechanical automatic transmission
Cruising range: 250 mi
Road speed: 38 mph
Crew: M2A3: 9 (3 crew; 6 dismounts); M3A3: 5 (3 crew; 2 dismounts)
Vehicle armament: 25mm Bushmaster cannon; TOW II missile system; 7.62mm M240C machine gun
Vehicle features: Two Second Generation Forward Looking Infrareds (FLIRs) in the Improved Bradley Acquisition System (IBAS) and Commanders Independent Sight (CIV) provide “Hunter-Killer target hand-off” capability with ballistic fire control system; Embedded diagnostics; Integrated combat command and control digital communications suite hosting Force XXI Battle Command Brigade-and-Below (FBCB2) package with digital maps, messages and friend/foe situational awareness; Position navigation system with GPS and inertial navigation system; Enhanced squad situational awareness with squad leader display integrated into vehicle digital images and IC3 Current models/variants: Bradley M2/M3 A0, A2, A2 ODS (Operation Desert Storm), A3 IFV/CFVs, Bradley Fire Support Team (BFIST) Vehicle, Bradley Linebacker, and MANPADS Under Armor

FOREIGN COUNTERPART - China: Type 90, WZ-503; Commonwealth of Independent States: BMP 1, 2, and 3; France: AMX-10P, AMX VCI; Germany: Marder 1; United Kingdom: MCV-80 Warrior, FV-432.
FOREIGN MILITARY SALES - Bradley M2A2s: Royal Saudi Land Forces, Kingdom of Saudi Arabia

Stryker

MISSION

Ensure the effectiveness of the Stryker Brigade Combat Team (SBCT) such that the SBCT can deploy to place a credible combat force anywhere in the world within 96 hours of liftoff.

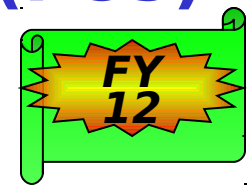
DESCRIPTION AND SPECIFICATIONS

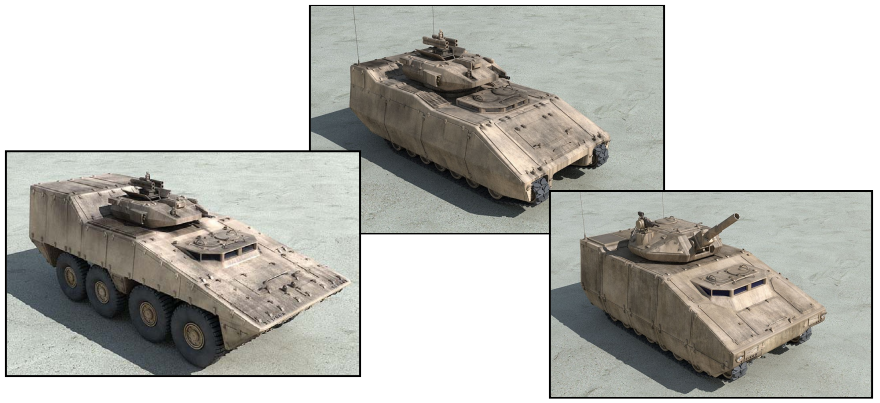
The Stryker will play a key role in the SBCT. The SBCT is a full-spectrum combat force whose effectiveness was confirmed, through extensive analysis, in all operational environments and against all current and projected threats. SBCT is designed and optimized primarily for employment in small scale contingency operations in complex and urban terrain, against low-end and mid-range threats that may employ both conventional and asymmetric capabilities. The SBCT is capable of conducting all major doctrinal operations including offensive, defensive, stability, and support actions. Its core operational capabilities derive from excellent operational and tactical mobility, enhanced situational understanding, combined arms integration down to company level, and high dismount strengths for close combat in urban and complex terrain. Properly integrated through a mobile robust C4ISR network, these core capabilities lead to enhanced force effectiveness and compensate for platform limitations that may exist in the close fight. The SBCT's success will result from its early entry, battlefield shaping, and decisive actions. A family of Strykers will be the primary weapons system for the SBCT. Strykers will be capable of infantry, reconnaissance, direct and indirect fires, command and control, engineering, medical, and other combat and combat support missions. The vehicle provides integral protection level against munitions up to 14.5mm armor piercing. It will be deployable by C-130 aircraft and be combat capable upon arrival in a contingency area. It can move about the battlefield quickly and is optimized for close, complex or urban terrain. The Stryker program takes advantage of non-developmental item systems with common subsystem and components to quickly acquire and field these systems. Where appropriate, Strykers will integrate existing Government Furnished Material subsystems, such as Long Range Advanced Scout Surveillance System (LRAS), and Forward Looking Infrared (FLIR). The IAV vehicle is capable of self-deployment by highway (no heavy equipment transports) and self-recovery (no separate recovery vehicle). It has a low noise level that reduces crew fatigue and enhances survivability.

FOREIGN COUNTERPART - Not applicable

FOREIGN SALES - Not applicable

Future Combat Systems (FCS)





FCS is a family of vehicles, structured around 12 common systems, including a series of mission modules with 8 variants to optimize commonality. A single variant is used as lead vehicle from which the remaining vehicles will evolve.

FCS is the Army's top priority S&T program and calls for a multi-function/multi-role system-of-systems that will meet the future ground force requirements of the Army. No decision has been made as to wheel or track capability. Desired functions include:

- **Direct fire**
- **Indirect fire**
- **Air defense**
- **Non-lethal firepower**
- **Reconnaissance**
- **Command and control on-the-move**
- **Troop and system transport via C-130**

FCS Cannon

FY 12

REQUIREMENTS

Maximum Range: 30(T) - 40(O) km

Minimum Range: 4 (T) – 3 (O) km

Rate of Fire: 6 (T) – 10 (O) Rnds/Min

Caliber: Undefined

Resupply: Complete in 8 (T) – 5 (O) min

Munitions: All current and developmental munitions of it's caliber

Responsiveness: Emplaced 20 sec (T) – 15 sec (O); Moving 30 sec (T) – 20 sec (O)

Deployability: C-130 (one SPH)

Accuracy: Total CEP .55% of range at low angle, range < 30KM

Cannons provide responsive, flexible, agile, and high volume (both in terms of quantity and duration) fires.

Army Indirect Fire Alternatives; Report to the SASC, June 2002

High Mobility Artillery Rocket System (HIMARS)

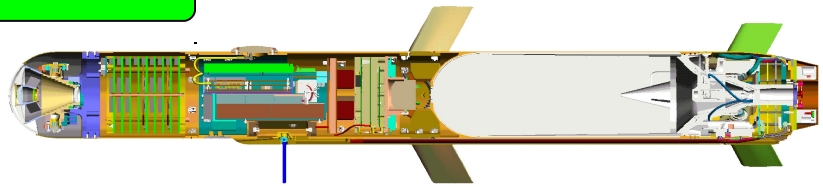
MISSION
Provide light, airborne, and air assault divisions and early-entry/contingency forces with Multiple Launch Rocket System (MLRS) firepower capability to conduct counterfire, suppression of enemy air defenses, and precision indirect fires to destroy materiel and personnel targets.

DESCRIPTION AND SPECIFICATIONS
The High Mobility Artillery Rocket System (HIMARS) supports the Army Transformation by providing the Legacy through Objective Force with a rapidly deployable, lethal fire-support system for early entry/contingency forces. HIMARS is mounted on a family of medium tactical vehicles (FMTV) 5-ton truck and can be transported fully combat loaded by C-130 or larger aircraft. The wheeled chassis allows for faster road movement, lower operating costs, and requires 30 per-cent fewer strategic airlifts (via C-5 or C-17) to transport a battery than the current tracked M270 MLRS launcher unit. The HIMARS can fire the suite of MLRS family of munitions, including all Army tactical missile system variants. The HIMARS carries either a rocket or a missile pod, has a self-loading capability, and is manned by a three-man crew.
Weight – 35,000 pounds

FOREIGN COUNTERPART - There are several foreign wheeled multiple rocket launch systems on the international market; none, however, have the mobility and munitions suite capabilities of HIMARS.

NLOS-LS Configuration Overview

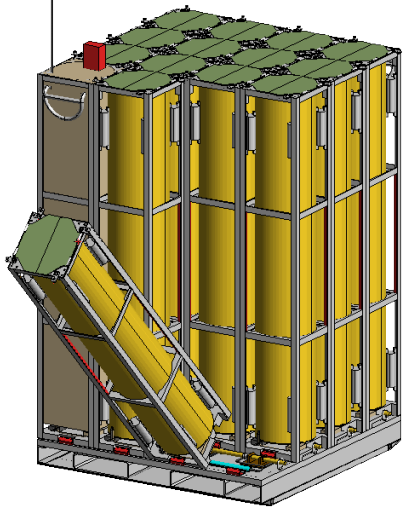
FY 10



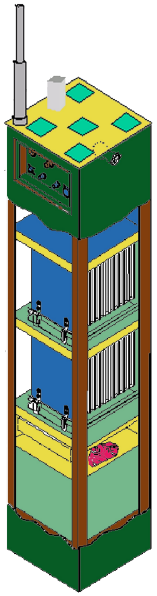
Precision Attack Munition (PAM) – 40km range, GPS/INS guidance, effective vs. heavy and light armored target sets

Loiter Attack Munition (LAM) – 70km range, 30 minute loiter time, GPS/INS guidance, effective vs. armor and soft targets

Container/Launch Unit



Missile Computer & Commo System

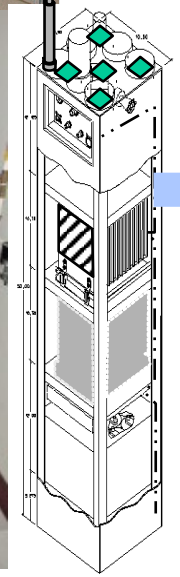


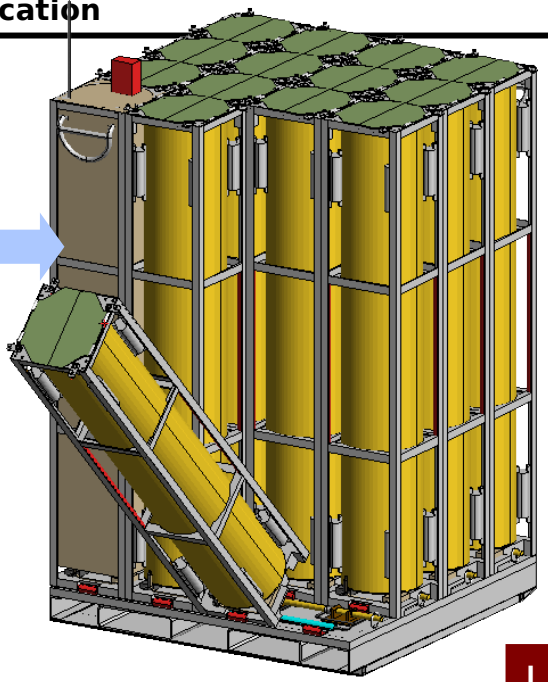
PEO-TM Efforts

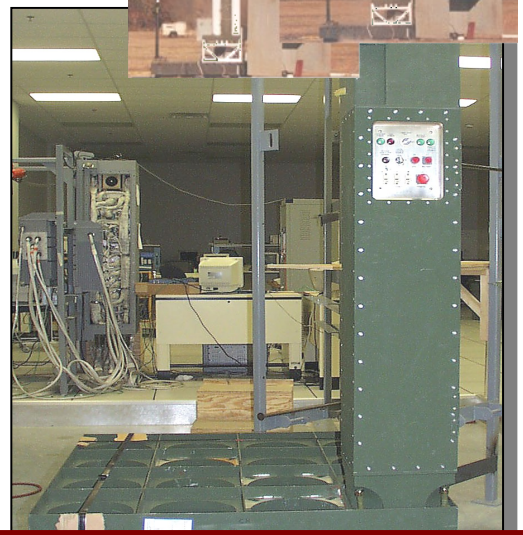
- **Development of PAM, LAM, and CLU w/ MCCS**
- **Technical Fire Control**
- **Network Interfaces for CLU and Missiles**
- **Platform Interfaces with LSI and PM FCS**

Command Launch Unit (CLU)

Capabilities:
- ✓Network Radio/Node
- ✓15 Missile Mix
- ✓C-130 Roll-On/Roll-Off
- ✓Platform Independent
- ✓Self Aligning, Self Locating, Reloadable, Reconfigurable
- ✓Determine vertical, North, and GPS location







Raytheon Accomplishments

Lockheed Accomplishments

Army Will Combine the Best Functions and Capabilities From the ATD CLU Developments Into an Increment 1 System

Theater High Altitude Area Defense (THAAD)

MISSION

Provide theater-wide area defense of tactical ballistic missile (TBM) threats, including weapons of mass destruction, operating in the endo- and exo-atmosphere and directed against military forces and strategic geopolitical assets.

DESCRIPTION AND SPECIFICATIONS

The Theater High Altitude Area Defense (THAAD) system is a theater missile defense (TMD) weapon system designed to intercept short- and medium-range missile threats that will employ increasingly sophisticated warhead technologies. The THAAD system will augment existing and other planned TMD capabilities by engaging threat missiles at higher altitudes and at longer ranges. This intercept capability negates the use of weapons of mass destruction. THAAD's hit-to-kill guidance approach provides a high degree of lethality compared to existing systems with fragmentation warheads. The THAAD system consists of missiles; launchers; battle management/ command, control, communications, computers, and intelligence (BM/C4I) elements; radars; and support equipment. The missile is a hypervelocity, single-stage, solid propellant booster with a unique endo-/exo-atmospheric kill vehicle (KV). The hit-to-kill technology KV, designed to destroy threat warheads, guides to the target using an infrared homing seeker. The launcher uses the Army standard Palletized Load System (PLS) 16-ton truck with a capacity of at least eight missile rounds on a missile pack. The High Mobility Multipurpose Wheeled Vehicle (HMMWV)-based BM/C4I centers will coordinate with the theater air defense command and control system and will control both the engagement and force operations for THAAD. The BM/C4I will provide automated acquisition and identification of TBM threats, process and disseminate track data, assign weapons, monitor engagements, and guide sensor operations. The THAAD X-band phased-array radar acquires the target at long ranges, tracks it, and provides in-flight updates to the THAAD interceptor prior to intercept. The radar also performs kill assessment to support the decision to commit additional interceptors or to cue lower tier systems such as the Patriot system. The THAAD system will support passive defense and attack operations by providing impact-point predictions and launch point estimations. The THAAD system will be fully trans-portable by C5 / C17 military aircraft. Once in theater, the system will use Army standard prime movers to be highly mobile on highways and unimproved roads. These system capabilities will enable THAAD to be rapidly deployed to any theater on short notice.

FOREIGN COUNTERPART - None

Patriot Advanced Capability-3 (PAC-3) Missile System

MISSION

Provide lower-tier theater air and missile defense (TAMD) of echelon above corps and corps critical assets and maneuver forces against theater ballistic missiles (TBM), cruise missiles, helicopters, fixed-wing aircraft and unmanned aerial vehicles (UAV).

DESCRIPTION AND SPECIFICATIONS

The combat element of the PAC-3 missile system is the fire unit, which consists of a phased array radar set (RS), an engagement control station (ECS), an electric power plant, an antenna mast group, a communications relay group (CRG), and up to eight launcher stations (LS). The RS provides all tactical functions of airspace surveillance, target detection and tracking, and missile guidance and engagement support. The ECS provides the human interface for command control of operations. Each LS contains either 16 PAC-3 missiles or four other than PAC-3 ready-to-fire missiles sealed in canisters that serve dual purposes as shipping containers and launch tubes. PAC-3's fast-reaction capability, high firepower, ability to track numerous targets simultaneously, and ability to operate in a severe electronic countermeasure environment are significant improvements over previous air defense systems. The PAC-3 missile system is far superior to the to the previous Patriot system through significant upgrades to the RS and ECS, and the PAC-3 missile, which utilizes hit-to-kill technology for greater lethality against TBMs armed with weapons of mass destruction. The PAC-3 system will be fully transportable by C5 / C17 military aircraft. Once in theater, the system will use Army standard prime movers to be highly mobile on highways and unimproved roads.

FOREIGN COUNTERPART

Former Soviet Union: a combination of the SA-10 and SA-12.

FOREIGN MILITARY SALES

Apache Longbow (AH-64D)

MISSION

Conduct rear, close, and deep operations and deep precision strikes; [illegible] armed reconnaissance and security when required in day, night, and adverse weather conditions.

DESCRIPTION AND SPECIFICATIONS

Apache Longbow is a development and acquisition program for a millimeter-wave radar air/ground targeting system capable of being used day, night, in adverse weather, and through battlefield obscurants. Longbow integrates a mast-mounted millimeter-wave fire control radar (FCR), a radar frequency interferometer, and a radar frequency fire-and-forget HELLFIRE missile on the
Apache. Longbow's digitized target acquisition system provides automated detection, location, classification, prioritization, and target handover. The AH-64D cockpit is redesigned to digitize and multiplex all systems. MANPRINT crew stations have multi-function displays to reduce pilot work-load
and increase effectiveness. The modernized Apache heavy attack team will now be able to provide a truly coordinated rapid-fire capability (servicing 16 separate targets within one minute) to the maneuver force commander on a 24-hour basis in day, night, and adverse weather conditions. Apache Longbow will add significant warfighting capability to the combined arms team through increased survivability, lethality, versatility, and long-term reliability improvements.

Combat mission speed: 167 mph
Combat range: 300 miles
Combat endurance: 2.5 hours
Mission weight: 16,600 lb
Armament: Hellfire missiles, 2.75" rockets and 30mm chain gun
Crew: 2 (pilot and co-pilot gunner)

FOREIGN COUNTERPART - No known foreign counterpart

Blackhawk (UH-60A/L)

MISSION

Provide air assault, general support, aeromedical evacuation, command and control, electronic warfare, and special operations support to combat and stability and support operations.

DESCRIPTION AND SPECIFICATIONS

The Black Hawk, along with the Comanche, Apache, and Chinook, is a principal component of the multi-function battalion, the building block of the Aviation Force Structure for the new millennium. The Black Hawk (UH-60) utility tactical transport helicopter has enhanced the overall mobility of the
Army, due to dramatic improvements in troop capacity and cargo lift capability, compared to the UH-1 “Huey” it replaces. On the asymmetric battlefield, it provides the commander the agility to get to the fight quicker and to mass effects throughout the battlespace across the full spectrum of conflict. An
entire 11-person, fully equipped infantry squad can be lifted in a single Black Hawk, transported faster than in predecessor systems, in most weather conditions. The Black Hawk can reposition a 105mm Howitzer, its crew of six, and up to 30 rounds of ammunition in a single lift. The aircraft’s critical components and systems are armored or redundant, and its airframe is designed to progressively crush on impact to protect the crew and passengers.

Max gross weight: 20,250 lb 22,000 lb, 23,500 lb (external cargo)
Cruise speed: 139 kt 150 kt
Endurance: 2.3 hr 2.1 hr
Max range: 320 nm 306 nm
External load: 8,000 lb 9,000 lb
Internal load: 2,640 lb (or 11 combat equipped troops)
Crew: 2 pilots, 2 crew chiefs
Armament: Two 7.62mm machine guns

FOREIGN COUNTERPART - French: Puma, NH90; Russia: HIP series aircraft; United Kingdom: Lynx, EH-

Chinook/Improved (CH-47)

MISSION

Transport ground forces, supplies, ammunition, and other battle-cri
cargo in support of worldwide combat and contingency operations.

DESCRIPTION AND SPECIFICATIONS

As the Army's only heavy-lift cargo helicopter capable of intra-theater cargo movement of payloads greater than 9,000 lb, the CH-47 Chinook/Improved Cargo Helicopter (CH-47F) is an essential component of the Army Vision. The CH-47F program will remanufacture 300 of the current fleet of 431 CH-47D Chinook helicopters, install a new digital cockpit, and make modifications to the airframe to reduce vibration. The upgraded cockpit will provide future growth potential and will include a digital data bus that permits installation of enhanced communications and navigation equipment for improved situational awareness, mission performance, and survivability. Airframe structural modifications will reduce harmful vibrations, reducing operations and support (O&S) costs and improving crew endurance. Other airframe modifications reduce by approximately 60% the time required for aircraft tear down and build-up after deployment on a C-5 or C-17. These modifications significantly enhance the Chinook's strategic deployment capability. A separate, but complementary effort, is the installation of more powerful and reliable T55-GA-714A engines that improve fuel efficiency and enhance lift performance by approximately 3,900 pounds. Installation of an improved crashworthy extended range fuel system (ERFS II) will enable Chinook self-deployment
and extend the operational radius of all other missions. A pro-gram is also underway to reduce O&S costs through the joint development with the United Kingdom of a low-maintenance rotor hub.

Max gross weight: 50,000 lb
Max cruise speed: 170 knots/184 miles per hour
Troop capacity: 36 (33 troops plus 3 crewmembers) Litter capacity: 24
Sling-load capacity: 26,000 lb center hook, 17,000 lb forward/aft hook, 25,000 lb tandem
Minimum crew: 3 (pilot, co-pilot, and flight engineer)

Air Mobility Transport (AMT) - HVTOL

Capabilities and Missions:

The AMT is a long-range, Vertical Take-Off and Landing (VTOL) future medium to heavy lift system envisioned to enable full spectrum strategic responsiveness through global self deployment. It will enable advanced full dimensional operations through inherent air-ground maneuver and intra theater lift to bypass traditional ports of debarkation. It will provide the means to achieve non-linear, non-contiguous and distributed operations across an expanded battle space to actualize vertical envelopment and enable joint, simultaneous engagement in depth. The AMT will be able to sustain high operational readiness/OPTEMPO rates and reduce logistics footprint by leveraging new emerging technologies in aviation logistics, composite materials, fuel efficiency, dynamic components, reliability, and onboard self-diagnostics/prognostics. Additionally, the AMT will be capable of performing mobility and counter-mobility tasks, conducting recovery & resupply operations, and supporting medical evacuation operations. It will provide both operational and tactical mobility to Army objective forces. The AMT must be capable of self-deployment to any region, worldwide under high hot conditions at maximum gross weight.

System/Mobility	**Helo**	**TR**
VTOL Mission (4k/95)		
-Mission Radius, km	500	500
-Vertical Takeoff GW, tons	61.6	64.6
-Payload (V_{br}), tons	20	20
-Typical Cruise Speed, kt	175	300
Mid-Point VTOL Mission (Hi-Low-Hi)		
-Mission Radius, km	1,000	1,000
Global Self-Deployment (Unrefueled) (2,100 nm)		
-Rolling Takeoff GW (Hot Day), tons	77	81
-Payload (V_{br}), tons	3.4	20
-Time (with Headwinds), hr	15.2	7.7
Survivability		
-IR Signature	Adv IR Suppression	
-Acoustic Signature (Tip Speed), fps	725	626 (cruise)
-Time on Ground for cbt loaded FCS w/ crew	1 Min or less	
-Airframe Ballistic Tolerance	23 mm HEI	
-Crew Ballistic Protection	7.62 mm	
-Crew & Cargo NBC Protection	Overpressure & Detection	
-Active Anti-Air Missile Decoys POD	20 Decoy Flares	
-Dominant Situational Awareness: Adv C2 link to IO Internet; Adv Night Vision/Sensor Suite		
Lethality		
-OCSW - Point & Area Fire - Stationary Range 2 km - Moving Fire Range 1.5 km		

Program Status and Implications:

The Aviation Center has initiated the requirements determination process, conducting a mission needs analysis.

Initial Concept:

- **Internal Load**
  - –Height: 106”
  - –Width: 120”
  - –Length: 480”
- **Range:**
  - –500nm @ 40,000 lbs.
  - –1250nm @ 16,000 lbs.

Theater Support Vessel (TSV)

One SBCT = 12,751 ST, 270,553 Ft^{2,} 3663 Troops, moving 400 nautical miles needs:

12 TSVs
- 10 Hours Transit Time
- Total Fuel Consumed (one way) **220,942 gals**
- Reduces demands on airframes
- Delivers Total Force to Forward Area

or

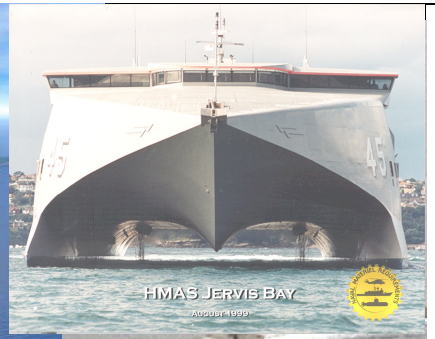
26 Legacy LSVs
- 40 Hours Transit Time
- Total Fuel Consumed (one way) **150,800 gals**
- Requires 260% more crew than TSV
- Does Not Transport Troops

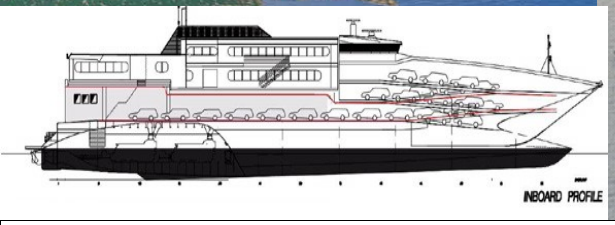
or

254 C-17 Sorties
- 1 Hour Transit Time per sortie
- Total Fuel Consumed (one way) **1,047,750 gals**
- Requires additional troop transport

- 8,700 NM Range with 1,000 ST at 24 Knots
- 1,250 NM Range with 2,650 ST at 40 Knots
- 15 Foot Draft
- 15,000 Ft^2 of Cargo Area

Theater Support Vessel (TSV)





Capabilities and Missions:

• TSV will be faster, more capable, and possess greater survivability than current generation watercraft
• TSV will maximize intra-theater lift from a Joint/Intermediate Staging Base to provide the warfighter the capability to operationally move and maneuver combat ready forces into the forward areas and provide follow-on sustainment through minor and degraded ports
• By-pass JLOTS bare-beach operations and support force and sustainment projection requirement through any port accessible to Army watercraft in the the engagement area
•

Limitations:

• Maximum payloads directly reduce speed and distance parameters
• Applicability of commercial industry technologies to military sealift needs is still unproven

Description:

• TSV is the Army's next generation shallow draft, self-deploying watercraft that will leverage commercial industry emerging technologies
• Average speed: 40+ knots
• Self-deployment range: 4726+ NM@ 40 knots
• Intra-theater movement and maneuver lift of intact unit sets
• Troops plus gear: 350+
• Cargo space: 25-30K sq. ft.
• Cargo payload/delivery range:
    - Up to 1,250 ST (17 M1 tanks) / 400 NM
    - Up to 1,000 ST (14 M1 tanks) / 1000 NM
• Self-sustained ISO container capability and limited support for rotory wing operations (helicopter flight deck)

Program Status and Implications:

Requirement is to procure one TSV per year starting in FY05 for a total of 12 TSVs by 201; current out-year Army funding is insufficient to procure TSV in these quantities

• Possible reprogramming of out year funding to support TSV is underway within the Army

• Army is currently pursuing an experimentation phase prior to procurement with possible industry and Navy participation; could lead to a Joint TSV experiment lasting 12-15 months sometime during the period 3QTR FY01-1QTR FY03

• Test and Evaluation Plan and Concept Experimentation Plan required

• Existing Theater Logistics Vessel (TLV) Operational Requirements Document (ORD) currently under rewrite as a TSV ORD

C5 Galaxy

Capabilities and Missions:

Function: With its tremendous payload capability, the gigantic C-5 Galaxy, an outsized-cargo transport, provides the Air Mobility Command inter-theater airlift in support of United States national defense.

The C-5 is one of the largest aircraft in the world. It can carry outsized cargo intercontinental ranges and can take off or land in relatively short distances. Ground crews can load and off load the C-5 simultaneously at the front and rear cargo openings since the nose and aft doors open the full width and height of the cargo compartment. It can also "kneel down" to facilitate loading directly from truck bed levels. Other features of the C-5 are:

• High flotation landing gear with 28 wheels sharing the weight.

•Full width drive-on ramps at each end for loading double rows of vehicles.

•Able to take off fully loaded within 8,300 feet (2,530 meters) and land within 4,900 feet (1,493 meters).

Limitations:

•Large infrastructure requirements

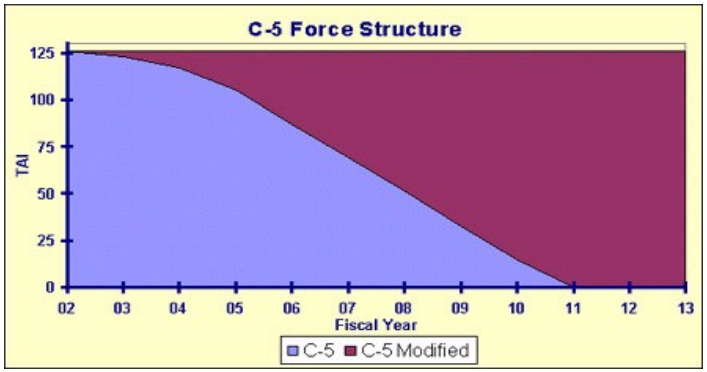
•Low survivability in high-threat environment

•Current MC rate is significantly below planning factors

General Characteristics

Contractor: Lockheed Georgia Co.
Thrust: 41,000 pounds, each engine
Wingspan: 222.9 feet (67.93 meters)
Length: 247.1 feet (75.3 meters)
Height: 65.1 feet (19.84 meters) (at tail)
Cargo Compartment:
Height, - 13.5 feet (4.11 meters)
Width - 19 feet (5.79 meters)
Length - 143 feet, 9 inches (43.8 meters)
Takeoff/Landing Distances:
8,300 feet (2,530 meters) takeoff fully loaded
4,900 feet (1,493 meters) landing fully loaded
Pallet Positions: 36
Speed: 518 mph (.68 Mach)
Range: 6,320 nautical miles (empty)
Crew: Seven (pilot, co-pilot, two flight engineers and three loadmasters)
Unit Cost: C-5B, $184.2 million (FY96 constant dollars)
Date Deployed: June 1970 (operational)

Program Status and Implications:



FY	00-02	03	04	05	06	07	08	09	10	11	12	13-24
C-5	126	123	117	105	87	69	51	33	15	0	0	0
C-5 Modified	0	3	9	21	39	57	75	93	111	126	126	126

C141 Starlifter

Mission and Capabilities

The C-141B Starlifter is the "workhorse" of the Air Mobility Command. The Starlifter fulfills the vast spectrum of airlift requirements through its ability to airlift combat forces over long distances, deliver those forces and their equipment either by air, land or airdrop, resupply forces and transport the sick and wounded from the hostile area to advanced medical facilities.

A universal air refueling receptacle on the C-141B, with the ability to transfer 23,592 gallons(89,649.6 liters) in about 26 minutes, means longer non-stop flights and fewer fuel stops at overseas bases during worldwide airlift missions.

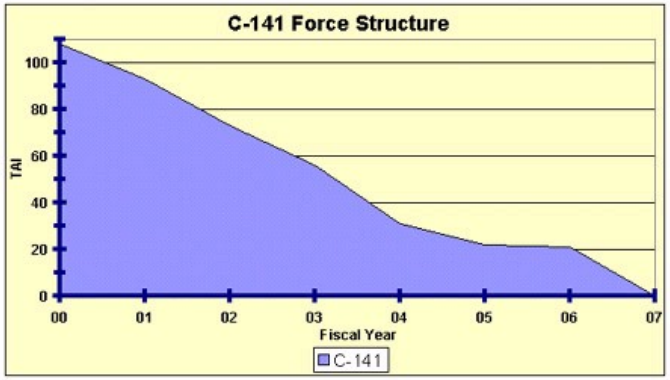
Limitations

Range and payload weight are greater than the C130, but infrastructure requirements are too great for intra-theater role. C17 has greater capacity, better configured for outsized cargo and can operate on more austere airfields.

General Characteristics

Primary Function: Cargo and troop transport
Contractor: Lockheed-Georgia Co.
Power Plant: Four Pratt & Whitney TF33-P-7 turbofan engines
Thrust: 20,250 pounds, each engine
Wingspan: 160 feet (48.7 meters)
Length: 168 feet, 4 inches (51 meters)
Height: 39 feet, 3 inches (11.9 meters)
Cargo Compartment: Height, 9 feet 1 inch (2.77 meters); **length,** 93 feet 4 inches (28.45 meters); **width,** 10 feet 3 inches (3.12 meters)
Cargo Door: width, 10.25 feet (3.12 meters); **height,** 9.08 feet (2.76 meters)
Speed: 500 mph (Mach 0.74) at 25,000 feet
Ceiling: 41,000 feet (12,496 meters) at cruising speed
Range: Unlimited with in-flight refueling
Maximum Takeoff Weight: 323,100 lbs (146,863 kilograms)
Load: Either 200 troops, 155 paratroops, 103 litters and 14 seats, or 68,725 lbs (31,239 kilograms) of cargo
Unit Cost: $42.3 million (FY98 constant dollars)
Crew: Five or six: two pilots, two flight engineers and one loadmaster and one navigator (added for airdrops). Aeromedical teams of two flight nurses and three medical technicians each are added for aeromedical evacuation missions.
Date Deployed: C-141A: October 1964; C-141B: December 1979.

Program Status and Implications:



FY	00	01	02	03	04	05	06	07
C-141	108	93	73	56	31	22	21	0

C-17 Globemaster

Capabilities and Missions:

· Provides rapid strategic delivery of troops and cargo to main operating bases or directly to forward bases
· Capable of performing theater airlift missions
· Performs cargo drop operations
· Improves the ability of the total airlift system to fulfill the worldwide air mobility requirements of the US
· In conjunction with other lift assets, maintains US power projection capabilities
· Can be used to transfer supplies to forward bases after the C-5B delivers to the main operating bases
· Key supporting element in humanitarian relief, disaster relief, and Peacekeeping/Peacemaking operations

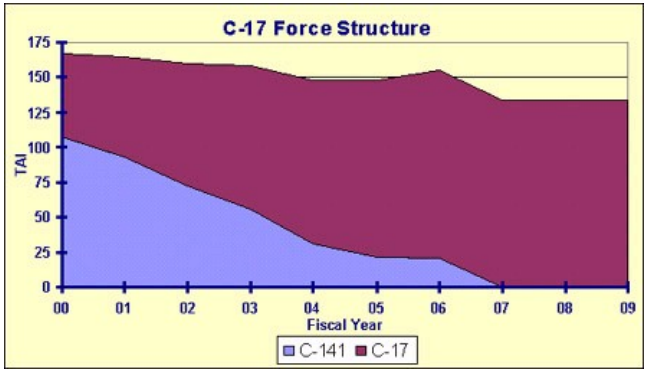
Limitations:

· Airfield requirements limit the C17 intra-theater lift role
· Visible to enemy radar
· Susceptible to surface-to-air missiles, air-to-air missiles, and anti-aircraft artillery
· Takeoff, en route, and landing weather impacts, such as thunderstorms, icing, crosswinds, turbulence, and snow

General Characteristics

POWER PLANT: 4 Pratt & Whitney F117-PW-100 turbofan engines
MAX TAKEOFF WEIGHT: 585,000 lbs (265,306 kgs)
LENGHT: 174 ft
WINGSPAN: 170 ft
SPEED: 500 mph (Mach 0.77)
UNREFUELED RANGE: 5,200 nm; 4,400 nm with 40,000 lbs payload; 2,400 nm with max payload (170,900)
ENDURANCE: With refueling, crew endurance
CEILING: 45,000 ft at cruising speed (13,716 m)
CREW: 3 (pilot, copilot, loadmaster)
LOAD: 102 troops/paratroops; 48 litter and 54 ambulatory patients and attendants; 170,900 lbs (76,644 kgs) of cargo (18 pallet positions)

Program Status and Implications:



FY	00	01	02	03	04	05	06	07	08	09-24
C-141	108	93	73	56	31	22	21	0	0	0
C-17	59	72	87	102	117	126	135	135	135	135
Total	167	165	160	158	148	148	156	135	135	135

Civil Reserve Air Fleet (CRAF)

Description:

• Program participants contribute passenger and cargo aircraft during contingencies in return for access to DOD passenger and cargo airlift business
• Augments Air Mobility Command (AMC) during periods of increased airlift needs across the spectrum of conflict
• Currently in excess of 700 aircraft in the CRAF program that includes international, national, and aeromedical evacuation assets
• Three stages of incremental activation:
  – Stage I - Committed Expansion. Airlift capability from international segment committed to CDR, AMC when needed
  – Stage II - Defense Airlift Emergency. Airlift emergency not warranting national mobilization activated by SECDEF
  – Stage III - National Emergency. Airlift required during major military emergency involving U.S. forces activated by SECDEF after national emergency declared by

Capabilities and Missions:

• Provides more than 90% of military's readily available passenger lift and about 40% of its net cargo capability
• Cargo capability best suited to palletized/containerized cargo
• Long-range, non-stop, unrefueled commercial aircraft very suitable for strategic movement of passengers
• CRAF moved two-thirds of all passengers and one-fourth of all air cargo during Operation Desert Shield/Storm

Limitations:

• Lack of air-to-air refueling capability
• Most outsize and oversize cargo not capable of transport by civilian aircraft
• Legal and practical limitation's on use aircraft and crews in hazardous conditions (hostile territory/ISBs) and on kinds of military materiel carried
• Requirement to operate with robust infrastructure, long paved runways, MHE, etc limits flexibility for military mobility

Program Status and Implications:

• MRS 05 Study recommends continued emphasis on additional services that could be provided by commercial operators in support of the DOD program to provide between 51.1 MTM/D and 54.5 MTM/D of airlift capacity
• AMC approach to CRAF modernization to meet military requirements includes economic incentives and program refinements to retain air carriers and modern, high-capacity aircraft
• AMC continues to investigate cost-effective ways to insert military requirements (wider cargo doors) into the design and production of commercial aircraft to enhance military utility
• Continued growth in commercial airfreight industry is projected; Boeing expects 60-70% of future cargo demand to be met by conversion of 747 passenger to cargo aircraft; new 747 cargo aircraft may be equipped with nose doors

Large Medium-speed Roll-on Roll-off Ship (LMSR)

Description:

• The LMSR is Military Sealift Command's newest class of ships that will significantly expand the nation's sealift capability in support of the Objective Force

• Four classes of LMSRs with varying manufacturers and power plants exist; however, the general characteristics are:
- Length range: 907-956 ft
- Beam: 106 ft
- Cargo capacity: 260,779-393,000 sq ft, plus ~52,000 sq ft deck cargo space
- Speed: 24 knots

Capabilities and Missions:

• The LMSR can carry an entire U.S. Army Task Force, including 58 tank, 48 other track vehicles, plus more that 900 tactical wheeled vehicles
• Four LMSRs can transport or store afloat a Heavy Brigade (2X2) with support equipment
• Capable of supporting military contingencies across spectrum of operations
• Contains a slewing stern ramp and a removable ramp which services two side ports making it easy to drive vehicles on and off the ship
• Two 110-ton single pedestal twin cranes make it possible to load and unload cargo where shore-side infrastructure is limited or non-existent
• A commercial helicopter deck may be used for emergency and daytime landing

Limitations:

• Relatively slow speed not suitable for strategic transport of early arriving forces, more suitable for contingency forces and follow-on sustainment
• Require secured Sea Lines of Communications (SLOC) to operate

Program Status and Implications:

• 19 LMSRs have been converted or built at U.S. shipyards and in operation by the end of 2001

• The need for additional military sealift ships was identified in MRS 05 study, that highlighted need for greater sealift capacity to transport military equipment and supplies during wartime and other national contingencies

• The total program of 19 LMSRs provide 5 million sq ft of capacity

Fast Sealift Ship (FSS)

Capabilities and Missions:

• Specially suited to transport heavy or bulky unit equipment such as tanks, large wheeled vehicles, and helicopters
• Total of eight FSS capable of carrying nearly all(93%) the equipment of an Army Mechanized Division
• Capable of sailing from the U.S. east coast to Europe in six days and to the Persian Gulf in 18 days
• Capable of off-loading onto lighterage while anchored at sea or in ports where there are limited shore facilities for unloading equipment
• Area between the forward and after superstructures allow for emergency high hover helicopter lift

Limitations:

• Applicability of commercial industry technologies to military sealift needs is still unproven
• Require secured Sea Lines of Communications (SLOC) to operate

Description:

• The FSS is the fastest cargo ship in the world, travelling up to speeds of 33 knots

• Roll-on roll-off and lift-on lift-off capable ships equipped with on-board cranes and self-contained ramps

• Manufactured in the Nehterlands and Germany; characteristics are:
- Length: 946 ft
- Beam: 106 ft
- Cargo capacity range: 204,276-217,288 sq ft

Program Status and Implications:

•

Roll-on Roll-off (RORO)
Ready Reserve Force (RRF)

Description:

• RRF program of initiated in 1976 as a subset of the Maritime Administration's National Defense Reserve Fleet (NDRF) to support the rapid worldwide deployment of U.S. military forces

• NDRF consists of a total of 86 vessels (dry cargo vessels, tankers, military auxiliaries, and other ship types)

• RORO (RRF), as part of the NDRF, is a fleet of 31 standby ships designed to support the rapid worldwide deployment of Army and Marine Corps unit equipment and re-supply

• NDRF currently maintained at the James River, VA, Beaumont, TX, and Suisun Bay, CA, fleet sites, and at designated out port berths

Capabilities and Missions:

• Ships are maintained in a readiness status such that they can be activated and ready to proceed to a loading port incrementally in 4

to 30 days

• RRF vessels have consistently satisfied activation timeline requirements with no failures on ships with reduced operational status (ROS) crews

Limitations:

• Require secured Sea Lines of Communications (SLOC) to operate

• Future replacement/re-capitalization of older vessels is uncertain

• The operational impact of limited crews is a potential future problem, since the 1996 Maritime Security Act stabilized the number of U.S.-flagged vessels providing a pool of mariners for activating the RRF fleet

Programmatic Information:

• Older vessels, including many remaining from World War II, are being systematically scrapped

• The total number of RRF program ships is scheduled to be reduced from the current 86 to 72 starting in FY01

C130 Hercules

General Characteristics

Power Plant: Four Allison T56-A-15 turboprops; 4,300 horsepower, each engine
Length: 97 feet, 9 inches (29.3 meters)
Height: 38 feet, 3 inches (11.4 meters)
Wingspan: 132 feet, 7 inches (39.7 meters)
Cargo Compartment: Length, 41 feet (12.5 meters); width, 108 inches (2.74 meters); height, 9 feet (2.74 meters). Rear ramp (one pallet position); length, 88 inches (2.23 meters); width, 108 inches (2.74 meters); height, 76 inches (1.93 meters)
Speed: 374 mph (Mach 0.57) at 20,000 feet (6,060 meters)
Ceiling: 33,000 feet (10,000 meters) with 45,000 pounds (17,716 kilograms) payload
Maximum Takeoff Weight: 155,000 pounds (69,750 kilograms)
Range: 1000 nm with a 38,000 lbs payload (IAV requirement); 780 nm with a 40,000 lbs payload, and 560 nm with a 42,000 lbs payload (given a 5000 ft improved runway and fuel available at the destination airfield).
Crew: Five (two pilots, a navigator, flight engineer and loadmaster); up to 92 troops or 64 paratroops or 74 litter patients or six standard freight pallets with a maximum of 45,000 pounds of cargo.
Unit Cost: $14.1 million (1996 dollars)
Date Deployed: April 1955

Mission and Capabilities

The C-130 Hercules primarily performs the tactical portion of the airlift mission. The aircraft is capable of operating from rough, dirt strips and is the prime transport for airdropping troops and equipment into hostile areas. C-130s operate throughout the U.S. Air Force, serving with Air Mobility Command (stateside based), theater commands, Air National Guard and the Air Force Reserve Command, fulfilling a wide range of operational missions in both peace and war situations. Basic and specialized versions of the aircraft airframe perform a diverse number of roles, including airlift support, Arctic ice resupply, aeromedical missions, aerial spray missions, fire-fighting duties for the U.S. Forest Service and natural disaster relief missions.

In its personnel carrier role, the C-130 can accommodate 92 combat troops or 64 fully-equipped paratroops on side-facing seats. For medical evacuations, it carries 74 litter patients and two medical attendants. Paratroopers exit the aircraft through two doors on either side of the aircraft behind the landing-gear fairings. Another exit is off the rear ramp for airdrops.

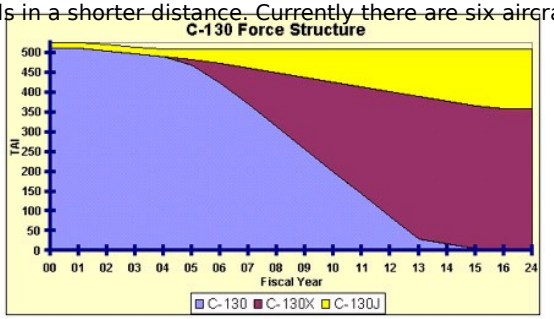
Limitations

Although it is the only current theater lift system capable of supporting the FCS, the C130 falls far short of the capabilities required for Objective Force operational maneuver and sustainment concepts. C130 meets minimum requirements for payload and range, but it is limited by its airfield requirements.

Operational limitations especially limit C130 capabilities for assault landing mission.

Program Status and Implications:

The C-130J is the latest addition to the C-130 fleet and will eventually begin to replace retiring C-130E's and C-130H's. The C-130J incorporates state-of-the-art technology to reduce manpower requirements, lower operating and support costs, and provide life cycle cost savings over earlier C-130 models. Compared to older C-130s, the C-130J climbs faster and higher, flies farther at a higher cruise speed, and takes off and lands in a shorter distance. Currently there are six aircraft in the test program.



FY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17-24
C-130	511	511	505	498	491	468	423	371	314	257	200	143	86	29	17	5		
C-130X						15	50	90	135	180	225	270	315	360	360	360	360	360
C-130J	15	15	15	17	19	27	37	49	61	73	85	97	109	121	133	145	150	150

Logistics Support Vessel (LSV)

Capabilities and Missions:

The LSV provides worldwide transport of combat vehicles and sustainment cargo. It provides intratheater line haul of large quantities of cargo and equipment. Tactical resupply missions can be performed to remote underdeveloped coastlines and inland waterways. It is also ideally suited for the discharge and/or back load of sealift, including RO/RO vessels such as an LMSR. The LSV can transport cargo from ship-to-shore in LOTS operations including those in remote areas with unimproved beaches. All tracked and wheeled vehicles, including main battle tanks, dozers, container handling equipment, etc. can be transported in LOTS operations. It has both bow and stern ramps for RO/RO cargo, and a bow thruster to assist in beaching and beach extraction. It can also be used for unit deployment and relocation. Because of its shallow draft, the LSV can carry cargo from deep drafted ships to shore ports or areas too shallow for larger ships. The LSV can also execute cargo operations along coastal MSRs.

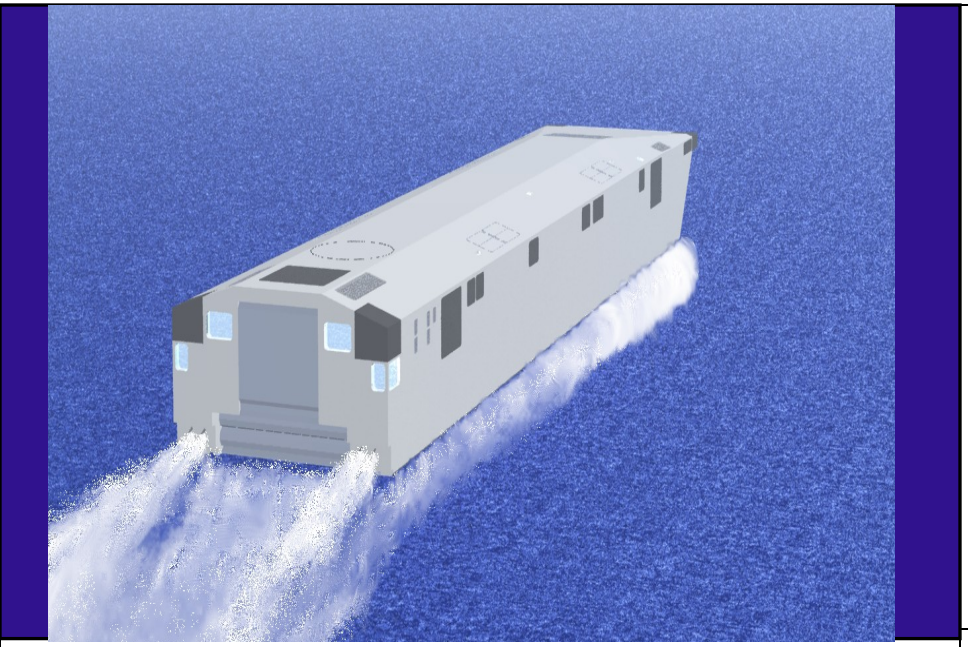
The LSV can self-deploy anywhere in the world.

Characteristics/Capabilities.

Length overall: 273 feet
Beam: 60 feet
Displacement (weight): 4,199 long tons
Deck area: 10,500 square feet (*up to 24 M1 main battle tanks or 25 [50 double stacked] 20' ISO containers*)
Payload: 2,000 tons (*equivalent payload capacity of 86 C-141s*)
Range:
Light: 8,200 nautical miles at 12.5 knots
Loaded: 6,500 nautical miles at 11.5 knots
Draft:
Light: 6 feet
Loaded: 12 feet.
Crew size: 32 (8 WO/24 Enl for 24-hour operation).
Vessel age:
First vessel in service: 1988
Last vessel in service: 1994
Average age: 8 years (EUL: 25 years)

Program Status and Implications:

Shallow-Draft High-Speed Ship (SDHSS)



Description:

• A sea-lift system designed to strategically move combat power (equipment/personnel) to theater of operations at speeds up to 55 knots

• A total of 12 and 10 SDHSS assets were included in ATWG 2000 and again in ATWG 2001, respectively

• Nominal payload for 12 notional systems is 150,000 sq ft/10,000 STON of roll-on roll-off cargo with accompanying personnel from CONUS to SWA with one in-stream refueling

Capabilities and Missions:

• During ATWG 2000, SDHSS had the most significant impact on force closure; the only strategic platform that could deliver troops and equipment together in sufficient size to bring immediate combat power to the CINC
• Capable of traveling from CONUS to Cyprus, Turkey in 4 days
• Does not require fixed ports; capable of off-loading combat power wherever there is at least a ten-foot draft an acceptable beach gradient
• The 12 SDHSS used in ATWG 2000, as a fleet, transported the equivalent of 28 LMSR or 5863 C-17 loads
• Introduction and early arrival of SDHSS in ATWG 2000 relieved pressure on strategic airlift for the movement of USMC, AEFs, theater ADA, C2 elements, the Objective Force Brigade, and overall SPOD throughput requirements

Limitations:

• Applicability of commercial industry technologies to military sealift needs is still unproven
• Require secured sea lines of communications (SLOC) to operate

Program Status and Implications:

The cost of SDHSS ships are estimated at $400M for initial system with a production cost of $300M

• Leasing is one method of acquiring SDHSS to avoid the large initial procurement costs

• Leases can typically cover a base period of five years, renewable up to 20 or 25 years at 5-year interval with substantial termination costs